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Westinghouse Electric Corporation

Air Arm Division

Friendship International Airport
Box 746, Baltimore 3, Md.
Telephone: 761-1000

October 15, 1962

Special Projects Office - ASZ-5
Plans & Programs Office
Directorate of Production
Wright-Patterson AFB, Ohio

SUBJECT: Contract AF33(600)40280
Change in scope - Item 16
Ground Support Equipment Special Items
Westinghouse Ref. AAE-45196-19

Enclosure (1): Three (3) copies of "Description of Changes to Ground Support Equipment Special Items", dated October 15, 1962

Enclosure (2): One (1) reproducible ad six (6) copies Exhibit B, Section I, Ground Support Equipment Special Items, Revised October 15, 1962.

Enclosure (3): Three (3) copies of Westinghouse Cost Analysis PE-777 Form dated October 18, 1962

Reference (A): Westinghouse Letter to Special Projects Office ASZ-5, dated 27 August 1962; Subject - Contract AF-33(600)40280 Program Extension, Westinghouse Reference EWB 45196.

Gentlemen:

In negotiating the Proposal of Reference "A", we mutually agreed to re-submit the quotation for changes to the Ground Support Equipment necessitated by equipment changes, as a revision to the Exhibit established for the GSE under Item 16. An outline of the changes required is presented in Enclosure (1).

Enclosure (2) is the revised Exhibit, showing revised part numbers (661R046801 changed to 661R046802 and 661R047801 changed to 661R047802) and incorporating the increased estimated cost and fee previously agreed to for the changes.

Enclosure (3) is a Cost Analysis Supporting our CPFF quotation for the changes of \$49,863 estimated cost plus \$3,500 fixed fee. This quotation differs slightly from our previous estimate due to Labor Adjustment and G&A rate changes made since our previous quotation.

25 YEAR RE-REVIEW

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We wish to note that this estimate has simply been pro-rated to each item on the revised Exhibit, Enclosure (2), based upon the original ratio of estimated cost between the two items.

The equipment changes also require 2 additional Standard GME items:

<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>
1	HP - 212A	Function Generator
1	Sanborn - 150	4 Channel Recorder

By separate letter we will advise the Depot of this requirement.

Very truly yours,

WESTINGHOUSE ELECTRIC CORPORATION

[Redacted]
Project Liaison
Marketing Department

STAT

RMK:lb

Mmc.

cc: ASZ-5

Enclosure (1)
October 15, 1962

Description of Changes to

Ground Support Equipment
Serial No. 1

<u>Item No.</u>	<u>Rev.</u>	<u>Part Number</u>	<u>Title</u>	<u>Brief Description of Changes</u>
1	1	6613046001 Changed to 6613046002	System Test Simulator Consisting of:	
			(a) Frequency Converter	Provisions to supply precision reference frequency.
			(b) Frequency Translator	Modification of Modulators and addition of Buffer Amplifiers.
			(c) Target Simulator	Modification of Servo loop "A" and addition of Electronic Circuitry to provide for generation of a 1 kc offset frequency, necessary for Stability Testing. Redesign of Servo loop "B" to provide precision calibration of stability analyser for accurate testing of system WO.
			(d) Transponder	Redesign of Ramp Generator Scope control circuitry to make possible testing variable Film Speed Recorder. Addition of a subsidiary control loop to Servo A to provide testing of R.F. and Angle compensation position loop.
			(e) Stability Analyser	Addition of Buffer Stages to feed External Recorder.
			(f) Range Resolution Test Pattern Generation	Modification of R.F. gating circuitry to facilitate CW operation, for testing RPT.
			(g) Power Supplies	Modification of Video Amp to add variable gain control, redesign of Modulators to reduce amplitude modulation for extension of sensitivity. Addition of CW mode for test WO.

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<u>Item No.</u>	<u>Qty.</u>	<u>Part Number</u>	<u>Title</u>	<u>Brief Description of Change</u>
1 (con't)	1	661RD46001 Changed to 661RD46002	(b) Control Panel	Redesign of Test Sequence Timer. Modification of control logic to facilitate additional test functions. Addition of precise pulse generating and counting circuitry to control accurate Film Speed Recorder.
2	1	661RD47001 Changed to 661RD47002	Evaluator Unit Consisting of:	<p>(a) Range Resolution Optics Assembly No Change</p> <p>(b) Azimuth Resolution Optics Assembly Modification of optics to facilitate spectrum analyzing sine wave patterns. Modification of optics to increase evaluator resolution.</p> <p>(c) Evaluation Electronics Circuitry Addition of logarithmic amplifier to provide linear Dynamic Range Readout.</p> <p>(d) Power Supplies No Change</p>

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"EXHIBIT D"

Section I
 Ground Support Equipment
 Special Items

Contract AF 33(600)-40280

August 22, 1962

Revised October 15, 1962

<u>Item No.</u>	<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>	<u>Unit Estimated Cost</u>	<u>Unit Estimated Cost</u>
1	1	661R046G02	SYSTEM TEST SIMULATOR Consists of:	\$ 141,249	\$ 141,249
			(a) Frequency Converter (b) Frequency Translator (c) Target Simulator (d) Transponder (e) Pulsed RF Stability Analyzer (f) Range Resolution Test Pattern Generator (g) Power Supplies (h) Control Panel		
2	1	661R047G02	EVALUATOR UNIT Consists of:	33,697	33,697
			(a) Range Resolution Optics Assembly (b) Azimuth Resolution Optics Assembly (c) Evaluation Electronics Circuitry (d) Power Supplies		
			Sub Total Estimated Cost	174,956	
			Fixed Fee	<u>12,257</u>	
			CPFF Total		187,213

Westinghouse Electric Corporation - Air Arms Division

ADDRESS (STREET)

P.O. Box 746

CITY

Baltimore

ZONE

3

STATE

Maryland

ORDER OR FILE NO.

AAN-45196-19

PRIME SUB

PURCHASE REQUISITION NO.

CONTRACT NO.

AF 33(600)-40280

ITEM NO.

ARTICLE

SOARD Extension - Ground Support Equipment

QUANTITY

AT

AMOUNT

TERMS AND DISCOUNT

Changes

\$

EACH \$

NET TOTAL OF CONTRACT

\$

ANALYSIS OF PRICE AS OF

October 15,

1962

TYPE OF CONTRACT

CPFF

INDICATE WHETHER DATA BELOW IS:

PER UNIT OR TOTAL

LINE	ITEM		AMOUNT
1. MANUFACTURING COST - DIRECT:		X X X X X	X X X X X
A. DIRECT MATERIAL			X X X X X
B. FACTORY LABOR (HOURS)			X X X X X
C. FACTORY OVERHEAD			X X X X X
D. TOOLS, DIES, JIGS, PATTERNS & FIXTURES			X X X X X
E. OTHER (SCHEDULE ATTACHED)			X X X X X
F. TOTAL DIRECT MANUFACTURING COST		X X X X X	X X X X X
2. PRODUCT DEVELOPMENT (% OF 1F)		X X X X X	
3. ENGINEERING COST - DIRECT:		X X X X X	X X X X X
A. DIRECT MATERIAL		\$ 4,360	X X X X X
B. ENGINEERING LABOR (5,120 HOURS)		21,902	X X X X X
C. ENGINEERING OVERHEAD		17,919	X X X X X
D. OTHER (SCHEDULE ATTACHED)			X X X X X
E. TOTAL DIRECT ENGINEERING COST		X X X X X	\$ 44,181
4. GENERAL RESEARCH (4.5 % OF 1F + 2 + 3E)			1,938
5. TOTAL MANUFACTURING & ENGINEERING COST (1F + 2 + 3E + 4)			46,119
6. GENERAL AND ADMINISTRATIVE EXPENSE (8.0 % OF 5)			3,694
7. CONTINGENCIES (FURNISH DETAILS)			
8. OTHER EXPENSES (FURNISH DETAILS)			
9.			
10.			
11. TOTAL COST (SUM OF LINES 5 THRU 10)			49,863
12.			
13. OPERATING PROFIT OR FIXED FEE			3,500
14.			
15.			
16. TOTAL ESTIMATED COST INCLUDING FIXED FEE - COST TYPE CONTRACTS			\$ 53,363
17. SELLING PRICE - FIXED PRICE CONTRACTS			
18.			
19.			
20.			

SEE DESCRIPTION OF COST AND PRICE ANALYSIS PROCEDURE

The subcontracted portion of this contract is estimated at _____ % of selling price.

CERTIFICATION

This is to certify that the above information contained in this report has been compiled from the records and books of this company (or is an estimate based on such books and records) and to the best of our knowledge and belief the costs and expenses shown hereon are correctly stated.

STAT

Westinghouse Electric Corp. - Air Arms Div.
CONTRACTOR

October 18, 1962

DATE

Enclosure (3)

October 15, 1962

General Aircraft EquipmentAMH - 45186-19Labor Breakdown

<u>Budget Center</u>	<u>Hours</u>	<u>Rate</u>	<u>Rate</u>	<u>Total Labor Cost</u>
Tool. Pab.	250	6.88	6.88	\$ 1,553
Model Shop	200	6.66	6.66	1,332
Components	50	8.73	8.73	437
Drafting	500	5.87	5.87	2,935
Enggr. Lab.	500	5.25	5.25	2,625
Support & Evaluat. 1962		7.99	7.99	15,341
Radar Div.	1000	8.81	8.81	8,881
Mech. Design	350	8.81	8.81	<u>3,084</u>
				<u>36,188</u>
				<u>724</u>
				<u>\$ 36,922</u>

1963

Radar Div.	350	7.99	\$ 2,797
			<u>112</u>
			<u>2,909</u>

TOTAL 1962 and 1963 \$ 39,821

"EXHIBIT B"

Section I
Ground Support Equipment
Special Items

Contract AF 33(600)40280

August 22, 1962
Revised October 15, 1963
Revised March 11, 1963

<u>Item No.</u>	<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>	<u>Unit Estimated Cost</u>	<u>Unit Estimated Cost</u>
1	1	661R046G03	SYSTEM TEST SIMULATOR Consists of:	\$ 157,566	\$ 157,566
			(a) Frequency Converter (b) Frequency Translator (c) Target Simulator (d) Transponder (e) Pulse RF Stability Analyzer (f) Range Resolution Test Pattern Generator (g) Power Supplies (h) Control Panel (i) Single Axis Platform Test Set		
2	1	661R047G02	EVALUATOR UNIT Consists of:	33,697	33,697
			(a) Range Resolution Optics Assembly (b) Azimuth Resolution Optics Assembly (c) Evaluation Electronics Circuitry (d) Power Supplies		
			Sub Total Estimated Cost	\$ 191,263	
			Fixed Fee	<u>13,407</u>	
			CPFF Total	\$ 204,670	